Aesthetic treatments to the male face require a specific approach that differs to that for female patients. Uwe Wollina and Alberto Goldman discuss the considerations of anatomy and treatment protocols when dealing with this patient cohort.

**Male facial anatomy**

The male facial anatomy differs in detail from the female counterpart. The bony structures such as the orbital rim, glabella, cheek bones, and chin tend to be more prominent. The glabella width is also a consequence of the strength and volume of the procerus muscle involved in flaring nostrils and increased air intake during physically-demanding activities. The shape of the male orbit and brows makes the eyes appear smaller. The forehead also has an increased backwards slope from the brows to the hairline.

Male noses are rated optimal when their final aesthetic line below nasion on the lateral view are straight, while in women they can be also concave. A strong lateral columella appearance is considered as a negative factor for male noses. The optimal male upper-lip and philtrum are broader.

Often, the male venter frontalis musculi occipitofrontalis and masseter muscles are strongly developed. The subcutaneous fat tissue is characterised by a criss-cross pattern of connective tissue fibres, preventing adipose tissue herniation.

The impact of testosterone on hair and sebaceous glands is significant.
Facial attractiveness is an important factor in social interaction, often being perceived as successful, intelligent, and socially desirable. The rating of attractiveness may be influenced by the gender of the rater and his/her age. The stereotypical deduction of personality as a result of outer traits, including facial attractiveness, is known as the halo effect.

Comparing antique with contemporary faces, the optimal contemporary male face will have a higher lower facial height (48%) against the total average facial height. Increased perceived male facial attractiveness is found in dolichocephalic (i.e. ‘long-headed’) males with a narrower and lower jaw (not square), and a wider and fuller lower-lip.

Masculinity and attractiveness are two significant components of male facial aesthetics. Features of high masculinity are cheekbone-jaw prominence. The perception of dominance, social boldness, and physical strength has been related to these anatomic features. According to some studies, extremes of masculinity may reduce attractiveness.

**The upper face**

The major targets of the upper face are horizontal and glabellar folds caused by the hyperkinetic muscles. The injection of botulinum toxin A is a safe and easy way to reduce mimic facial wrinkles. On the European and South American markets, onabotulinum toxin A (Botox/Vistabel, Allergan), abobotulinum toxin A (Dysport/Azzalure, Ipsen) and incobotulinum toxin A (Xeomin/Bocouture; Merz Aesthetics) are available. The products Botox/Vistabel and Xeomin/Bocouture are dose-equivalent. One unit of Dysport/Azzalure translates into 2-3 units of Botox.

As a result of a greater muscle mass, males often need higher doses of botulinum toxin treatment compared with females. A strong procerus muscle will result in a deep horizontal fold of the bridge of the nose. A dose-response study performed for male glabella lines clearly demonstrated that doses of 20 units onabotulinum toxin A were inadequate. The average dosage for this area in males was 60 units.

The corrugator supercili muscle tends to insert more laterally in males. This should be evaluated before treatment so that treatment to the lateral fibres is not omitted when injecting botulinum toxin A. The natural position of the male brows is horizontal and arching is usually unwanted since it feminizes appearance. (Figure 1)

To achieve optimal results, deep glabellar folds should be targeted using a combined approach (i.e. botulinum toxin and a dermal filler). This will not only provide a better appearance, but a significantly longer-lasting effect. In a study with adult females, the combination

achieved a 32-week effect compared with 18 weeks when treated with a hyaluronic acid filler alone. To avoid intravascular injection the authors prefer retrograde linear threading.

The horizontal lines are caused by the venter frontalis muscle occipitofrontalis. In some younger males, strong muscles in combination with a thicker forehead soft tissue layer can lead to deep lines. The frontal region should be better treated together with the glabella to achieve optimum results. The main adverse effect is a brow ptosis, especially in males; therefore, injections should preferably target the upper proportion of the forehead, and leave some minor activity in the lower part. The lower 2 cm of the frontalis muscle control the brow position and are a no-go area for botulinum toxin treatment. These rules will prevent a mask-like appearance and a brow ptosis. Crow’s feet are the result of lateral orbiscularis oculi muscle movement. In some males, the lateral part will expand more laterally and should be considered as an injection site.

Periorbital hyperpigmentation (dark circles) can be differentiated into vascular, constitutional, postinflammatory types, as well as shadow effects. It is quite common in patients of Asian origin. The shadow type is more often seen in males owing to the particular orbital anatomy with deep seated eyes. Depending on the underlying pathologies, a variety of treatment options such as the fractional 1550 nm erbium-doped fibre laser, 1064 nm Nd:YAG laser, chemical peels or even topical formulations of *Pfaffia paniculata*, *Psychopetala olacoides* B., and *Lilium candidum* L.-associated compounds have been used to improve periorbital hyperpigmentation.

The mid-face

The mid-facial region is an area in which dermal filler injections become more important than botulinum toxin. Sculpting of the mid-face includes the perioral region with tear through deformity, nasolabial folds and cheeks. Fine wrinkling of the lower-lid can be smoothed with superficial injections of small doses of botulinum toxin. This can be combined with either radio frequency or laser treatment to induce collagen neoformation, and improving skin laxity as a result.

The tear trough deformity can be treated with dermal filler injections (mostly hyaluronic acid) or autologous adipose tissue transfer. When using a calcium hydroxylapatitate biostimulator (i.e. Radiesse; Merz Aesthetics) for aesthetic purposes, the lower orbital rim must be acknowledged as a natural barrier or border that should never be crossed. For calcium hydroxylapatitate, serial puncture technique with deep seated microdroplets of ≤0.1 mL aliquot are administered. To avoid persistent malar oedema, small volume injections should be placed supraperiosteally, otherwise they could impede the lymphatic flow above the malar septum.

Persistence of hyaluronic acid fillers is a function of the
concentration, cross-linking and percentage elasticity (i.e. the proportion of elasticity in a cross-linked hyaluronic acid formulation). Persistence is related to a reduction in wrinkle severity and an increase in volume.

The nasolabial folds are the most popular indication for dermal filler injections (Figures 2 and 3). The folds should be considered together with the cheek bone area for the best results. Volume loss in the malar fat pad will aggravate the nasolabial folds. The authors therefore recommend starting any mid-face sculpting on the cheek bones with a liquid lift. When using a hyaluronic acid filler, monophasic and highly cross-linked products are preferred. Shear forces can decrease viscosity in dermal fillers. Higher shear forces are expected in areas with significant muscle movement. As a liquid lift to the cheek bones reduces the appearance of nasolabial folds indirectly, persistence of augmentation will last longer compared with injections along the nasolabial folds alone.

Hollowing of the cheeks is a consequence of loss of malar fat pad, as well as laxity of associated fibrous septae and the superficial musculoaponeurotic system (SMAS). The therapeutic targets are therefore volume and laxity. To improve volume loss, hyaluronic acid fillers are administered using a fanning technique, beginning with the deep subcutaneous layers. Other options are cross-hatching or serial puncture injections. The latter is preferred for calcium hydroxylapatatite. The tower technique with a combination of perpendicular deposit and layering procedures has recently been suggested for hyaluronic acid fillers. As male facial skin tends to be thicker, some males are more easily treated using a 25 rather than 27 gauge needle or cannula. Other authors prefer supraperiostally deposition of calcium hydroxylapatatite of short (0.3–0.5 cm) strands in a retrograde technique for 3D volumisation.

Volume loss is a significant feature of HIV-associated lipoatrophy, stigmatising affected males (and females). Correction of volume loss to the cheeks with a durability of more than 12 months has been achieved with large particle biphasic hyaluronic acid filler (Restylane SubQ; Q-Med, A Galderma Division), poly-L-lactic acid, and calcium hydroxylapatatite. Independent from the reasons for volume substitution in males, a round facial appearance should be avoided as this would reduce facial attractiveness.
Although some degree of collagen formation has been proven following treatment with dermal fillers, more advanced skin laxity will benefit from combined procedures. Laxity can be further improved by serial application of radio frequency and fractionated lasers. A more recent technology is subcutaneous laser application.

**Lower face and submental area**

Marionette lines and a dimpled chin are more common indications for botulinum toxin use. The injection technique for both does not differ to that used in females. A combination with dermal filler placement is useful in marionette lines, but the duration of effect is shorter compared with treatment to glabellar lines since the perioral musculature cannot be completely relaxed.

The jaw line is an important measure of facial aesthetics in males, influenced by body weight, platysma anatomy and strength, and sagging. With the authors’ technique to correct the down-turn of the lateral corners of the mouth, a shaping of the jaw line is also possible in younger, non-obese males. Injections are administered using a 30G needle with the patient in a supine position. Three to four injections are placed on both sites of the medial part of the platysma (each receiving 5 units of Vistabel or Bocouture, or 15 units of Dysport/Azzalure). The depressor anguli oris is treated with superficial injections of the bony insertion point with approximately the same dose.

The submental fat pad and skin laxity have been improved by subdermal laser lipolysis alone, or combined liposuction and subdermal laser.

**Adjuvant whole-face procedures**

Chemical peels are used as whole-face procedures in males as in females. In the authors’ experience, males prefer superficial peels because of the reduced downtime. Superficial peels include α-hydroxy acids (glycolic acid, lactic acid), β-hydroxy acids (salicylic acid, capryloyl salicylic acid), and Jessner solution (a combination of resorcinol, salicylic acid, lactic acid, and ethanol). β-Hydroxy acids have the advantage that they do not require a neutralising agent. Deeper peels like trichloric acid peel (TCA) need more experience. Peels can be used to treat acne, hyperpigmentation, and photodamage. Another technology for full-face procedures is microdermabrasion. The primary target is the stratum corneum. It can be used in addition to lasers, or in conjunction with dermo-cosmeceuticals.

Fractional photothermolysis is another technology that can be used for partial or full-face procedures. The target chromophore is tissue-bound water. Photothermolysis is available for different laser types, such as CO2 (10 600 nm), ErYAG (2940 nm), and yttrium-scandium-gallium-granat (2790 nm). The principle immediate effect comprises microscopic

![Figure 5](prime-journal.com) 40-year-old with melasma, before (A) and following (B) improvement with (trichloroacetic acid) TCA peel

![Figure 6](prime-journal.com) 31-year-old with acne scars. Before (A) and after (B) four sessions of microdermabrasion
thermal ablation zones, whereas the delayed induction of collagen and hyaluronic acid is dependent on laser wavelength, spot density, pulse duration, cutaneous hydration, and cooling. The coverage of fractional photothermolysis should be less than 50% of the area to avoid unwanted adverse effects. Pre- and postoperative care is essential to achieve optimum results. More details can be found in a recent consensus paper on this topic.

Conclusions
Men have become more interested in minimally-invasive aesthetic procedures during the last decade. The attempt to gain optimum results, however, has gender-specific features. The interaction between attractiveness and masculinity needs particular awareness. Men want to remain as natural as possible when considering aesthetic improvement.

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Key points

- When addressing male aesthetics it is also important to acknowledge masculinity.
- Owing to peculiarities in anatomy, botulinum toxin therapy needs to be adapted with regard to dosage and injection points.
- Dermal fillers are most useful for facial sculpturing in males.
- The cheeks, chin, and submental areas are key to facial attractiveness in male patients.
- Lasers and peels can be used in conjunction with botulinum toxin and dermal fillers to obtain optimum results.

References


